

CLAIMS:

1. An electrical connector, including:
a receptacle having a first end, a second end, a cavity extending toward the second end from an opening at the first end, a first contact
5 extending into the cavity at a first distance from the opening, and a second contact extending into the cavity at a second distance from the opening, the second distance being greater than the first distance; and
a plug being removably received by the receptacle cavity, the plug having a body and a stop for limiting the extent to which the body may be
10 inserted into the cavity, thereby defining a seated position, the body including first and second contacts that contact the first and second receptacle contacts, respectively, as the body approaches the seated position.
2. The connector of claim 1, wherein the cavity is substantially cylindrical.
- 15 3. The connector of claim 1, wherein the receptacle contacts are detents biased toward a central axis of the cavity.
4. The connector of claim 1, wherein the body is substantially cylindrical.
5. The connector of claim 4, wherein the stop is disposed adjacent
20 one end of the body, the stop being annular and having a diameter that is greater than a diameter of the body.
6. The connector of claim 5, wherein the cavity includes a portion adjacent the opening for receiving the stop having a diameter substantially corresponding to the stop diameter.
- 25 7. The connector of claim 4, wherein the plug contacts are annular.
8. The connector of claim 4, wherein each of the plug contacts includes a ring portion having a diameter that is greater than a diameter of the body, the ring portions cooperating with the receptacle contacts to resist
30 removal of the plug from the receptacle when the plug body is in the seated position.
9. The connector of claim 1, the body further including a first insulator between the first and second contacts.

10. The connector of claim 1, the receptacle further including a third contact extending into the cavity at a third distance from the opening, and a fourth contact extending into the cavity at a fourth distance from the opening, the third distance being greater than the second distance and the fourth distance being greater than the third distance, the plug body further including
5 third and fourth contacts that contact the third and fourth receptacle contacts, respectively, as the body approaches the seated position.

11. The connector of claim 10, wherein the plug body is cylindrical and the plug contacts are annular, the plug further including a first annular
10 insulator disposed between the first and second plug contacts, a second annular insulator disposed between the second and third plug contacts, and a third annular insulator disposed between the third and fourth plug contacts.

12. The connector of claim 11, wherein each of the first, second, and third annular insulators has a length that is different from the lengths of
15 the other annular insulators.

13. The connector of claim 12, wherein each of the first, second, and third annular insulators includes at least one of a first insulator section and a second insulator section, the first and second insulator sections having different lengths.

20 14. The connector of claim 10 wherein the distance between the first and second plug contacts is different from the distance between the second and third plug contacts.

15. The connector of claim 14, wherein the distance between the third and fourth plug contacts is different from the distance between the first and second plug contacts and different from the distance between the second and third plug contacts.
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16. The connector of claim 1, wherein the plug further includes a tip disposed adjacent a first end of the body for guiding the plug into the receptacle, the stop being disposed at a second end of the body opposite the
30 first end.

17. An electrical connector, including:
a receptacle having a cavity and a first conductor adjacent the
cavity; and
a plug having a second conductor adjacent an outer surface of
the plug;
wherein a signal on the first conductor is coupled to the second
conductor when the plug is substantially fully inserted into the receptacle
cavity.
18. The connector of claim 17, wherein the cavity extends from an
opening in one end of the receptacle toward another end of the receptacle.
19. The connector of claim 18, wherein the cavity is substantially
cylindrical.
20. The connector of claim 17, wherein the plug includes a stop for
limiting the extent to which the plug may be inserted into the cavity, thereby
defining a seated position, the signal being coupled from the first conductor to
the second conductor when the plug is in the seated position.
21. The connector of claim 20, wherein the stop is disposed
adjacent one end of the plug, the stop being annular and having a diameter
that is greater than a diameter of the plug.
22. The connector of claim 17, wherein the plug is substantially
cylindrical.
23. The connector of claim 18, wherein the cavity includes a portion
adjacent an opening of the cavity for receiving the stop, the cavity portion
having a diameter substantially corresponding to a diameter of the stop.
24. The connector of claim 17, wherein the plug further includes an
annular ring that has an increased diameter relative to another diameter of the
plug, and the receptacle includes a detent for cooperating with the ring to
resist removal of the plug from the receptacle when the plug is inserted into
the cavity.
25. The connector of claim 17, wherein the first conductor forms a
first loop about the cavity and the second conductor forms a second loop
within the plug.

26. The connector of claim 25, wherein the first and the second loops are substantially planar when the plug is substantially fully inserted into the cavity.

27. The connector of claim 17, wherein the receptacle further
5 includes a third conductor adjacent the cavity, and the plug further includes a fourth conductor adjacent the outer surface of the plug, a second signal on the third conductor being coupled to the fourth conductor when the plug is inserted into the receptacle cavity.

28. The connector of claim 27, wherein the first conductor forms a
10 first loop about the cavity, the second conductor forms a second loop within the plug, the third conductor forms a third loop about the cavity, and the fourth conductor forms a fourth loop within the plug.

29. The connector of claim 28, wherein the first and the second
15 loops are substantially planar and the third and the fourth loops are substantially planar when the plug is substantially fully inserted into the cavity.

30. The connector of claim 17, wherein the receptacle is located within an overbed table.

31. An electrical connector, including:

a receptacle having a first end, a second end, a cavity extending
20 toward the second end from an opening at the first end, a first contact movably supported by the receptacle, and a second contact movably supported by the receptacle;

a plug being removably received by the receptacle cavity, the plug including first and second contacts; and

25 an actuator supported by the receptacle, the actuator including a first cam disposed adjacent the first receptacle contact, a second cam disposed adjacent the second receptacle contact, and an engagement portion configured to be contacted by the plug as the plug approaches a seated position;

30 wherein further movement of the plug to the seated position moves the engagement portion, thereby causing the first cam to move the first receptacle contact into engagement with the first plug contact, and the second

cam to move the second receptacle contact into engagement with the second plug contact.

32. The connector of claim 31, wherein the engagement portion extends beyond the second end of the receptacle.

5 33. The connector of claim 31, wherein the engagement portion extends into the cavity adjacent the second end of the receptacle.

34. The connector of claim 31, wherein the engagement portion extends into the cavity adjacent the first end of the receptacle.

10 35. The connector of claim 31, wherein a portion of the actuator is disposed within a channel formed in the receptacle.